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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/758,241	01/12/2001	Katsuhisa Tanaka	10517/76	7842

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WASHINGTON, DC 20005

EXAMINER
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LORENGO, JERRY A

ART UNIT	PAPER NUMBER
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1734

18

DATE MAILED: 08/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Applicati n No.</b>		<b>Applicant(s)</b>	
	09/758,241		TANAKA, KATSUHISA	
	<b>Examiner</b>		<b>Art Unit</b>	
	Jerry A. Lorengo		1734	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 June 0203.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Pri rity under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                             | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

(1)

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 2,59,649 to Little et al. in view of U.S. Patent No. 4,724,026 to Nelson.

Regarding applicant claim 1, disclose an apparatus for the formation of a film on a substrate web via transfer from a carrier web comprising:

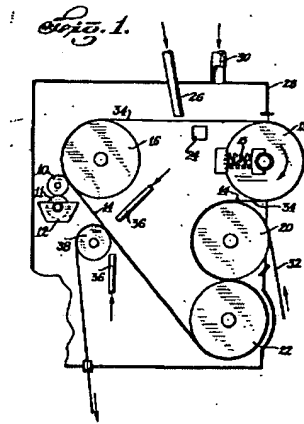
(1) A hot press machine 20,22 that forms a joined member by heating and pressing at least one transfer substrate 14 carrying a transferable coating 34 thereon with a target substrate web 32 while the coated transfer substrate 14,34 and target substrate web 32 are in contact (Figure 1; column 5, line 67 to column 6, lines 1-9);

(2) A cooling machine (nozzle) 26 that cools the transfer substrate 14 carrying the transferable coating 34 thereon before the coating 34 comes into contact with the target substrate web 32 (Figure 1; column 5, lines 56-61);

(3) A separating machine 38 that separates the transfer substrate 14 from the target substrate web 32 (Figure 1; column 6, lines 12-29); and

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(4) A cooling machine 36 that cools the joined member 34,32 prior to separating the transfer substrate 14 therefrom (Figure 1; column 6, lines 9-12). The apparatus of Little et al. is illustrated below:



Although Little et al. do not specifically disclose, as per applicant claim 1, that the target substrate web 32 is preheated via a heating means, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the apparatus of Little et al. with a heater capable of preheating the target substrate web 32 prior to contact and pressing of the target substrate web 32 with the transfer substrate 14 carrying a transferable coating 34 thereon motivated by the fact that Nelson, also drawn to apparatus for the transfer of a coating from a carrier web to a target substrate web, discloses that such preheating is useful in increasing the rate of travel of the webs by decreasing the dwell time in the pressure applying portions of the apparatus (Figures 5 and 6; column 4, line 56 to column 5, line 3). The apparatus of Nelson is illustrated below:

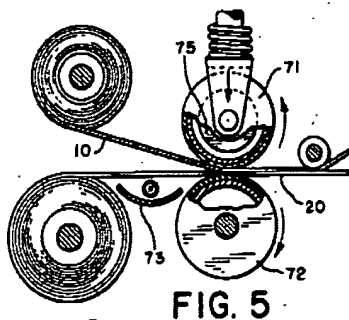


FIG. 5

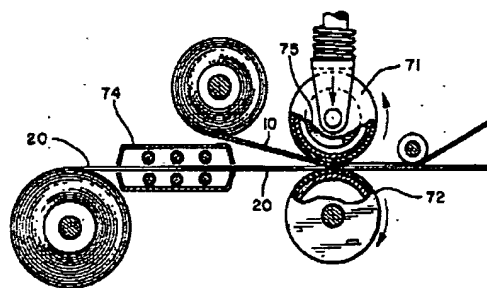


FIG. 6

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Regarding applicant claim 2, Little et al. disclose that the hot press machine 20,22 includes opposed pressing surfaces 20,22 capable of heating and pressing the transfer substrate 14 carrying a transferable coating 34 thereon with a target substrate web 32 while the coated transfer substrate 14,34 and target substrate web 32 are in contact (Figure 1; column 5, lines 71-75).

Regarding applicant claim 3, Little et al. disclose that the transfer substrate may be separated from the target substrate web via a separating means 38 at an angle of substantially 180° (Figure 3).

Regarding applicant claim 6, Little et al. disclose that it possible to provide the target substrate web 32 with a coating transferred to both sides thereof (Figure 2).

Although neither Little et al. nor Nelson specifically disclose, as per applicant claim 5, that the heater capable of preheating the target substrate web and hot press machine are integrated, the skilled artisan having ordinary skill in the art at the time of invention would have been appreciative of the benefits of integrating such devices motivated by the fact that an integrated assembly would take up less space, utilize fewer moving parts and thereby enable a more efficient apparatus.

(2)

Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 10-064574 to Kazuhiko in view of U.S. Patent No. 4,724,026 to Nelson and U.S. Patent No. 2,559,649 to Little et al.

Regarding applicant claim 7, Kazuhiko discloses a method for manufacturing an electrolyte (solid polymer film) 10A having a catalyst 9 applied to at least one side thereof for use in a fuel cell comprising the steps of:

(1) Contacting a catalyst carrier surface of at least one catalyst carrier substrate 6, carrying a catalyst 9 on one side thereof;

(2) Forming a laminate by heating and pressing the catalyst carrier 6 and the solid polymer film 10; and

(3) Separating the catalyst carrier substrate 6 from the solid polymer film 10 having the catalyst 9 transfer laminated thereto (Figure 3; abstract; paragraphs [0010] to [0014]).

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Although Kazuhiko discloses the steps of contacting, hot pressing and separating, he does not specifically disclose the step of preheating the solid polymer film 10 or pre-cooling the catalyst carrier.

With regards to the preheating of the solid polymer film, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the method of Kazuhiko with the step of preheating the solid polymer film 10 prior to hot pressing the solid polymer film 10 and transfer substrate 6,9 motivated by the fact that Nelson, also drawn to a transfer laminating method, discloses that although transfer lamination can proceed without a preheating step (Figure 4), it is also known to provide a preheating step, via heater means 73 or 74 to either preheat the receiving substrate 20 prior to transfer lamination via a hot-pressing means 71,72 (Figures 5 and 6; column 4, lines 56-64). He further teaches that preheating is highly advantageous in increasing the rate of travel of the webs through the apparatus since it is not necessary to maintain as great a dwell time in the hot press portions of the apparatus in order to achieved the desired transfer temperatures (column 4, lines 64-68; column 5, lines 1-3).

With regards to the pre-cooling of the catalyst carrier, it would have been obvious to one of ordinary skill in the art at the time of invention to provide the method of Kazuhiko with the step of pre-cooling the catalyst carrier prior to hot pressing the solid polymer film motivated by the fact that Little et al., also drawn to methods for the transfer of a coating from a coated carrier web to a target substrate web via heated pressing, disclose that the pre-cooling of the transfer substrate 14 carrying a transferable coating 34 thereon prior to heated pressing with the target substrate web 32 it is known in the art and is useful in regulating the temperature of the transferable coating of the transfer substrate (column 5, lines 56-61).

Regarding applicant claim 8, none of the references specifically disclose that the pressing surface in contact with the catalyst carrier is maintained at a temperature lower than a temperature of the pressing surface in contact with the solid polymer film. Nonetheless, the skilled artisan having an ordinary level of skill in the art at the time of invention would have appreciated that the temperature gradient across the laminate could be controlled by differential heating of the pressing surfaces motivated by the fact that Little et al. disclose that any desired amount of heat and pressure are applied to the form by the opposed pressing members 20,22 to cause the film to adhere to the base (column 6, lines 1-9).

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It would have also been obvious to one of ordinary skill in the art at the time of invention to cool the solid polymer film with a catalysts deposited thereon prior to separating the transfer substrate therefrom motivated by the fact that Little et al. disclose that the use of a cooling machine (nozzles) 36 capable of cooling the transfer substrate 14 carrying a transferable coating 34 thereon while in contact with the target substrate web 32 is desirable because that superior results are obtained if the transfer coated substrate film is stripped from the carrier web while the film is cool and non-tacky since there is less tendency for the film to stick to the carrier under such conditions (Figure 1; column 6, lines 9-19).

(3)

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as combined in section (2), above, in further view of "Pressure-Sensitive Adhesives for Tapes and Labels" by Temin.

The references as combined in section (2), above, disclose a method for the formation of a polymer film with a catalyst deposited thereon. Kazuhiko discloses that the backing sheets are separated from the substrate with coating layers thereon at an angle of approximately 90° (Kazuhiko at Figures 3 and 4). They do not, however, specifically disclose, as per applicant claim 9, that the stripping angle is substantially 180°.

Nonetheless, it would have been obvious to one of ordinary skill in the art at the time of invention to modify the stripping angle disclosed by Kazukiko, and strip the backing sheets and target substrate at an angle of substantially 180°, such as suggested by Little et al., as shown in his Figure 3, motivated by the fact that Temin discloses that angle of peel is intimately related to the force of pulling, the rate of pulling, the roughness and the surface energy of the surface, the pressure with which the films are pressed, the time of dwell before peeling is started and the mode of cohesive failure (page 657, 1<sup>st</sup> full paragraph).

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(4)

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 7 recites the limitation "the transfer substrate" in lines 8 and 3, respectively. There is insufficient antecedent basis for this limitation in the claim.

(5)

***Response to Amendments and Arguments***

The amendments and arguments filed June 27, 2003 are acknowledged. In response to the amendments to applicant claims 1 and 7 and the cancellation of claims 4 and 10, the original grounds of rejection has been modified as set forth in sections (1) to (4), above.

Applicant's arguments filed June 27, 2003 have been fully considered but they are not persuasive.

The applicant's main arguments are:

1. With regards to original claims 106 (now claims 1-3, 5 and 6), that the primary reference to Little et al. fails to teach or suggest anything regarding the transfer and adhesion of catalyst-type materials or transfer of such materials to a solid polymer film for use in a fuel cell; and
2. With regards to original claims 7-10 (now claims 7-9), that there is no motivation to combine the cooling methodology of Little et al. with the method of making a solid polymer film with a catalyst deposited thereon for a fuel cell, disclosed by Kazuhiko, because Little et al. do not appreciate the reason why the catalyst layer would be cooled prior to lay-up with the target substrate for transfer lamination.

With regards to point 1, above, the examiner respectfully submits that the applicant's argument is misguided. Basically, the applicant argues that the apparatus cannot be obviated by the references as combined because the is not drawn to an apparatus for the formation of solid



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polymer films with a catalyst deposited thereon for a fuel cell. Thus, the applicant is depending upon functional and workpiece limitations within the apparatus claim to differentiate the inventive apparatus over that of the applied prior art.

The examiner respectfully submits, however, that a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus shows all of the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987) Furthermore, "expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." *Ex parte Thibault*, 164 USPQ 666,667 (Bd. App. 1969). Thus, the "inclusion of material or article worked upon does not impart patentability to the claims." *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 (USPQ 458, 459 (CCPA 1963)).

In the instant case, the apparatus resulting from the references as combined shows all of the structural limitations of the claims. Furthermore, the reliance on the catalyst material is of no significance in determining patentability of the apparatus claim.

In response to applicant's argument, set forth in point 2, above, that Little et al. do not appreciate the reason why the catalyst layer would be cooled prior to lay-up with the target substrate for transfer lamination, the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art (that cooling of the transfer layer is known in the art and is useful in regulating the temperature of the transferable coating of the transfer substrate) cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

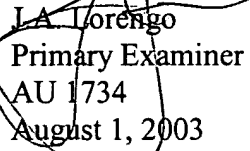
(6)

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry A. Lorengo whose telephone number is (703) 306-9172. The examiner can normally be reached on Monday through Friday, 8:30 A.M. to 5:00 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (703) 308-3853. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7115 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



J.A. Lorengo  
Primary Examiner  
AU 1734  
August 1, 2003